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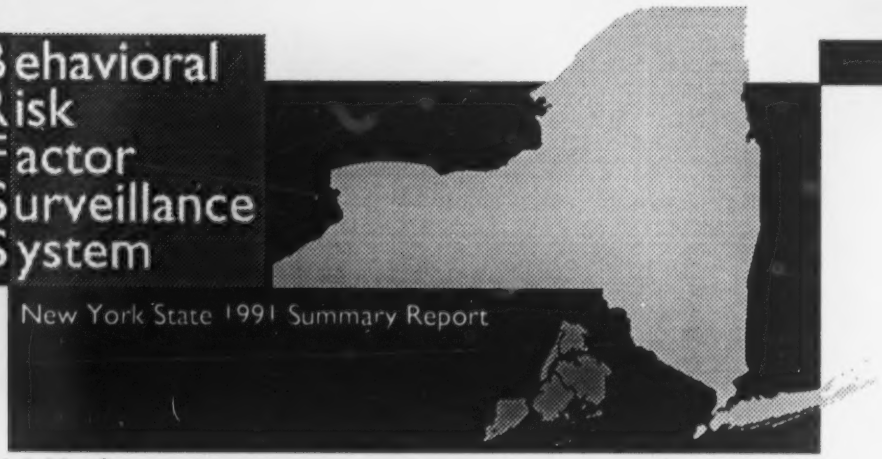
Behavioral Risk Factor Surveillance System



New York State 1991 Summary Report

Vol. I, No. 2 Summer 1993

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The Centers for Disease Control and Prevention (CDC) provide funding and technical assistance to the Behavioral Risk Factor Surveillance System (BRFSS) which was introduced in New York State in 1983 and has been conducted annually since 1985. Standardized questions developed by CDC are administered via a telephone survey. The 1991 BRFSS was conducted in forty-seven states plus the District of Columbia. This survey provides state-specific prevalence estimates of diseases and preventable behaviors attributable to early morbidity and mortality. These data are used to plan and promote health programs, support legislative decisions, and assess health-related behaviors.

The Behavioral Risk Factor Surveillance System - Summary Report is published quarterly. Issues will contain brief summaries on the risk factors included in each year's survey. Occasionally, issues will summarize special surveys, analysis of trends, and more in-depth discussion of specific risk topics. Copies may be obtained by contacting:

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Behavioral Risk Factor Surveillance System

AIDS

Alison Muse (AIDS Epidemiology Program)

Introduction

As the epidemic of the acquired immune deficiency syndrome (AIDS) enters its second decade, New York State continues to be the epicenter with an annual AIDS rate of 46.0 cases per 100,000 population.[1] National health promotion and disease prevention objectives for the year 2000 include limiting annual AIDS incidence and prevalence of human immunodeficiency virus (HIV) infection, increasing the proportion of HIV-infected people who have been tested and increasing the use of condoms.[2] National and local efforts to meet these objectives focus on public health intervention programs. Information on knowledge of and attitudes about HIV/AIDS is important for designing and evaluating intervention activities. The BRFSS is an important source of information on New Yorkers' knowledge and attitudes concerning HIV/AIDS.

Results

Table 1 compares responses from the 1990 and 1991 surveys — the first two years such data have been collected in New York State.

Table 1
1991 BRFSS
Knowledge and attitudes about AIDS

Questions	1990		1991		
	% Yes	Est. 95% CI (+/-)	% Yes	Est. 95% CI(+/-)	Percent Difference
Have you ever heard of the AIDS virus called HIV?	83.1	3.0	92.0	1.8	8.9
To your knowledge, are there drugs available to lengthen the life of a person infected with the AIDS virus?	53.9	3.9	54.9	3.3	1.0
Do you think a person who is infected with the AIDS virus can look and feel well and healthy?	65.5	3.7	69.3	3.1	3.8
Do you think you can get infected with the AIDS virus from giving blood?	31.4	3.7	41.4	3.3	10.0
Would you eat in a restaurant where the cook is infected with the AIDS virus?	21.6	3.2	14.3	2.3	-7.3
Would you be willing to work with a person who is infected with the AIDS virus?	64.6	3.8	64.5	3.2	-0.1
Do you think a condom is a very effective method in preventing getting the AIDS virus through sexual activity?	31.8	3.7	28.0	3.0	-3.8

In general, the findings from both years were similar. As in 1990, the majority (92.0 %) of respondents knew the AIDS virus was called HIV but only 54.9 percent were aware that drugs were available that can lengthen the life of an infected person, and fewer than one-third of respondents thought a condom was a very effective method for preventing sexual transmission of HIV.

Misconceptions regarding HIV transmission and fears about casual contact with an HIV-infected person were also evident from survey responses. When asked "Do you think a person can get AIDS or the AIDS virus from donating blood?", 41 percent of respondents answered "yes," a 10 percent increase from 1990. Fewer than 15 percent were willing to eat in a restaurant where the cook was HIV-infected, 7 percent fewer than those indicating a willingness in 1990. While most people were willing to work with an HIV-infected person, 35 percent were not.

When asked where one could go to be tested for the AIDS virus, the two most frequently cited sources were hospital emergency rooms and private physicians, both private settings. Fewer than 10 percent identified public sources (health departments or sexually transmitted disease, AIDS or family planning clinics) as potential HIV testing sites. More importantly, 14 percent of respondents answered that they did not know where they could go to be tested.

For all questions, people of higher income and more than 12 years of education were more knowledgeable. In addition, people younger than 45 were more knowledgeable than older people; married or never married individuals were more knowledgeable than widowed, separated or divorced people; and those residing in New York State outside of New York City, were more knowledgeable than New York City residents. Differences in knowledge were not noted by gender or race/ethnicity.

Discussion/Recommendations

The survey results suggest that some New Yorkers may be misinformed about HIV/AIDS. Incomplete knowledge of AIDS risk factors and of preventive measures may lead to behaviors that place a person at risk. Two-thirds of respondents failed to answer that condoms were a very effective method for preventing HIV transmission, although the term "very effective" was subject to interpretation by the respondent. Individuals who do not recognize the potential value of condoms in reducing HIV transmission may place themselves at risk for HIV infection through unprotected sexual intercourse. Only 55 percent of respondents were aware of the availability of drugs which can lengthen the life of an HIV-infected person and 31 percent either did not think or did not know an HIV-infected person could look and feel well and healthy. Such beliefs might cause people at risk of HIV infection to delay seeking HIV testing and treatment. Finally, respondents' lack of knowledge regarding the availability of sources for HIV antibody testing or the wide range of such sources might also cause individuals at risk to delay seeking HIV testing. It should be noted that survey respondents were representative of the New York State population and not of the population of HIV-infected people. Knowledge among HIV-infected people may be more complete.

To meet national HIV prevention objectives, educational programs are essential. The results of the 1991 BRFSS indicate the need to continue and expand educational activities in New York State. Given the higher prevalence of misinformation and misperceptions exhibited by certain sociodemographic groups, information provided through educational efforts must be sensitive to the cultural background and reading comprehension level of the target population. Since the majority of respondents identified private settings as sources of HIV antibody testing, it is important that these providers be well-informed and equipped to provide effective counseling and testing.

References

1. Centers for Disease Control and Prevention. *HIV/AIDS Surveillance Report, Year End Edition*. February, 1993;1-23.

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Behavioral Risk Factor Surveillance System

Alcohol

Colleen C. McLaughlin, MPH (Injury Control Program)

Introduction

It has been estimated that just under 5 percent of all deaths can be attributed to either chronic or acute alcohol consumption.[1] Alcohol related causes of mortality accounted for an estimated 6,526 deaths in New York in 1985.[2] Table 1 presents the alcohol attributable fractions broken down by specific causes of death. In addition to the causes listed in Table 1, alcohol accounts for between 5 percent and 10 percent of deaths due to the most common causes including hypertension, strokes, diabetes mellitus, pneumonia and flu. These mortality statistics, however, present only a fraction of the overall impact of alcohol on health. For example, one study of children revealed that for every death due to injury, there are 45 injuries requiring hospitalization and 1,300 injuries resulting in visits to the emergency room.[3] There are also many adverse outcomes that are not reflected in the mortality statistics, such as, fetal alcohol syndrome, birth defects and low birthweight.

Table 1
New York State
Alcohol attributable fractions
by cause of death*

Cause of Death	Percent of Deaths
Chronic Alcohol Consumption	
alcohol dependance syndrome	100
alcoholic cardiomyopathy	100
alcoholic hepatitis	100
alcoholic cirrhosis	100
esophageal cancer	75
chronic pancreatitis	60
cirrhosis with no mention of alcohol	50
cancers of the oral cavity, pharynx and larynx	50
acute pancreatitis	42
respiratory tuberculosis	25
stomach cancer	20
liver cancer	15
Acute Alcohol Consumption	
alcohol poisoning	100
homicides	46
fire	45
motor vehicle crashes	42
drownings	38
falls	35
suicides	28

*Adapted from reference 1

Accompanying these health outcomes are the economic and societal costs of alcohol misuse. The economic costs include the direct medical care costs of diagnosing and treating injuries and chronic illness related to alcohol and the indirect costs related to loss of productivity, premature death or disability, property destruction and criminal prosecution and imprisonment. In New York State in 1985, more than 500 million dollars were spent on hospitalization for alcohol related injuries and illnesses.[2]

The BRFSS collects information from New York State residents on the prevalence of current, acute and chronic alcohol consumption, as well as the prevalence of drinking and driving. *Current drinking* is defined as having had any alcoholic drinks in the past month. *Acute drinking* is defined as having had five or more drinks on at least one occasion in the past month. *Chronic drinking* is defined as having an average of two or more drinks per day during the past month. *Drinking and driving* is defined as having driven after having "perhaps too much to drink" on at least one occasion in the past month.

Results

In 1991, 50.0 percent of respondents in New York State reported having consumed any alcoholic beverage in the previous month (Table 2). This puts New York State about in the middle of the states that participated in the 1991 BRFSS survey (median = 51.2%). New York State, however, has the lowest proportion of current drinkers of all the states in the northeastern United States (Table 3).

While half of all respondents reported current drinking, 11.7 percent reported acute drinking and 2.5 percent reported chronic drinking (Table 2). Due to the small percentage of respondents who reported chronic drinking, caution should be used in interpreting these numbers. Just under 2 percent of all respondents reported an occurrence of drinking and driving in the past month.

Sex: Males were more likely to report being at risk from alcohol consumption than were females. The differences between males and females were statistically significant for all risk factors. While 3 percent (+/- 1.8%) of male respondents reported drinking and driving, only 1 percent (+/- 0.8%) of females respondents reported an episode of drinking and driving.

Age: For current drinking, acute drinking and drinking and driving, the percent of respondents who reported being at risk decreased with age. For chronic drinking, on the other hand, the lowest proportion at risk was the middle age group, 35 to 54 years old. Some age groups have been combined in Table 2 due to the small number of respondents. The pattern of drinking varied by age. The proportion of current drinkers who drank every week increased

Table 2
1991 BRFSS
Percent of respondents at risk from alcohol consumption

Sociodemographic Characteristic		Current Drinking		Acute Drinking		Chronic Drinking	
		Weighted Percent	Est. 95% CI(+/-)	Weighted Percent	Est. 95% CI(+/-)	Weighted Percent	Est. 95% CI(+/-)
Total		50.0	3.4	11.7	2.2	2.5	1.1
Sex	Males	61.1	5.0	18.3	4.0	4.6	2.2
	Females	40.4	4.3	6.1	2.1	0.7	0.8
Age	18-34	57.5	5.6	20.0	4.6	3.1	2.0
	35-54	52.6	5.8	9.5	3.4	1.9	1.6
	55+	39.7	5.9	4.8	2.6	2.7	2.0
Race	White, Non Hispanic	53.7	3.9	12.5	2.6	2.4	1.4
	Other	39.5	6.4	9.4	3.8	2.5	2.1
Education	< High School[a]	29.7	8.0	8.1	4.8	3.3	3.1
	High School	45.8	5.8	11.9	3.8	3.4	2.1
	Some College[a]	55.4	7.2	17.6	5.5	1.6	1.9
	College Grad	61.4	5.9	9.1	3.5	1.9	1.7
Marital Status	Married	49.9	4.8	8.5	2.7	1.9	1.3
	Sep/Div/Wid[a]	40.5	6.5	9.2	3.8	3.0	2.3
	Never Married[a]	57.8	6.7	21.3	5.6	3.6	2.5
Income	< 15,000[a]	37.6	7.4	8.2	2.9	2.1	2.2
	15,000-24,900[a]	49.9	8.1	13.8	3.0	2.7	2.6
	25,000-34,900[a]	52.7	9.9	17.4	7.5	4.8	4.3
	35,000+[a]	47.9	6.7	10.8	4.2	2.1	1.9
Region	New York City	44.9	5.3	8.2	2.9	2.0	1.5
	Remainder of State	53.0	4.3	13.8	3.0	2.8	1.5

[a] Percentages are based on fewer than 500 individuals in these categories, and should be interpreted with caution.

with age while the proportion who reported that they average three or more drinks per occasion decreased with age (Figure 1).

Race: Higher proportions of white non-Hispanic respondents reported being at risk from current and acute drinking than did people of other race or ethnicity. The proportion of respondents who reported chronic drinking did not vary by race. Some age groups have been combined in Table 2 due to the small number of respondents.

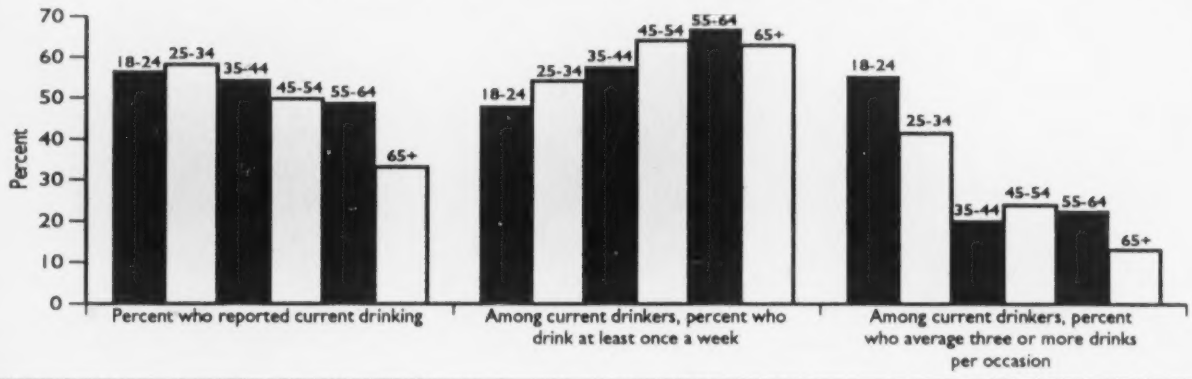
Education: The proportion of respondents who reported current drinking increased with higher educational attainment. Respondents who had never attended college were more likely to report chronic drinking, while respondents who reported that they had attended college but not graduated were more likely to report being at risk from acute drinking. The category of some college probably included more younger respondents, who were still in college.

Marital Status: Individuals who were never married were more likely to be at risk from alcohol consumption than were those who had ever been married. The most striking difference is with acute drinking; 21 percent of never married individuals reported having had more than five drinks on at least one occasion in the past month, while only 9 percent of ever married individuals reported similar risk. As with education, this may be due to the fact that never married individuals tend to be younger than those ever married.

Income: Respondents who reported income in the $25,000 to $34,900 range were more likely to report being at risk from current drinking and from acute and chronic consumption.

Region: Lower proportions of New York City residents reported being at risk from alcohol consumption than residents of the remainder of New York State.

Figure 1, 1991 BRFSS, Respondents' use of alcohol, by age group



Discussion and Recommendations

Although these data most likely underestimate the true prevalence of risk from alcohol consumption, they do indicate some interesting trends. Younger respondents were more likely to have had any alcohol in the past month, but those who did report current drinking tended to drink less often than older current drinkers. Younger respondents reported consuming more alcohol per occasion than the older respondents. They were also more likely to report having driven an automobile when they had too much to drink.

The pattern of alcohol use can be very important in determining health outcomes. Acute drinking puts a person at immediate risk for injuries. People ages 18 to 24 have high motor vehicle crash rates and intentional injury rates. This is related not only to the fact that they are more likely to binge drink, but they also engage in other high risk behaviors. On the other hand, chronic diseases related to alcohol are more likely to result from moderate to heavy long term alcohol consumption. Of the older respondents who drink, the fact that they tended to drink more frequently puts them at higher risk for chronic conditions. It should also be remembered that alcohol consumption *at any level* is inappropriate in some situations, such as among pregnant women, among children and teenagers or before operating automobiles, motor boats or machinery.

The average age that Americans start drinking is between 12 and 13 years, and research has shown that early sustained alcohol use contributes to a lifetime of mental and physical health problems.[4] Factors that foster alcohol use and abuse include mental well-being, genetic predisposition and determinants of risk taking behavior, such as belief in invulnerability (host factors); the availability and monetary cost of alcohol (agent factors); the social norms within the community and peer group; the monetary, societal and health related costs of drinking; laws regulating drinking age and penalties for drinking and driving; and modes and timing of advertising for alcoholic beverages (environment factors). All of these factors are points at which interventions can be successfully initiated.

References

1. Centers for Disease Control. Alcohol-related mortality and years potential life lost - United States, 1987. *MMWR* 1990;39:173-178.

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3. Gallagher SS, Finison K, Guyer B, Goodenough SH. The incidence of injuries among 87,000 Massachusetts children and adolescents: results of the 1980-1981 statewide childhood injury prevention surveillance system. *Am J Public Health* 1984;32:5-16.

4. US Public Health Service. *Progress report on Healthy People 2000: Alcohol and other drugs.* February 1992.

Table 3
1991 BRFSS
Percent of Respondents At Risk
From Alcohol Consumption for Selected States

State	Current Drinking	Acute Drinking	Chronic Drinking
Connecticut	62.1	14.8	3.9
Maine	51.2	10.3	3.4
Massachusetts	65.5	20.1	5.2
New Hampshire	65.3	19.6	5.4
New Jersey	56.3	9.7	3.9
New York	**50.0**	**11.6**	**2.5**
Pennsylvania	57.8	20.0	5.1
Rhode Island	60.3	16.9	4.8
Vermont	59.9	16.1	3.5

Behavioral Risk Factor Surveillance System

Mammography

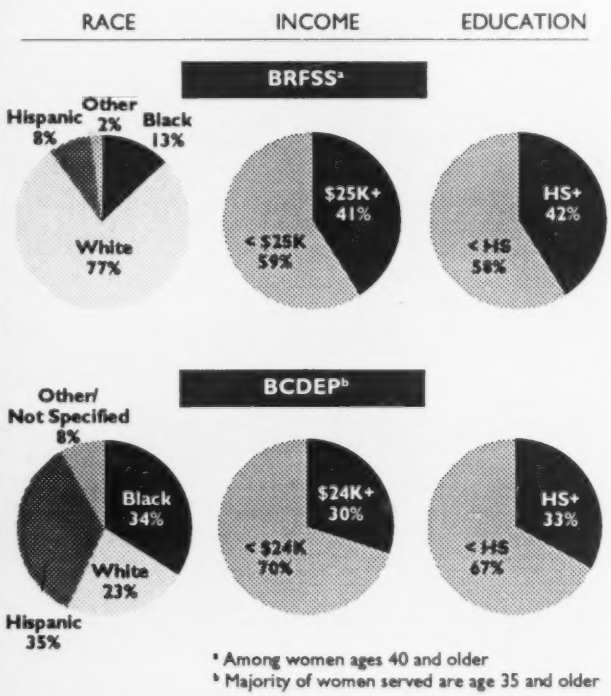
Susan True (Cancer Services Program)
and Patricia P. Lillquist, MSW (Bureau of Cancer Epidemiology)

Introduction

Breast cancer remains the leading cause of cancer death among women in New York, with approximately 11,000 new cases diagnosed and 3,700 deaths reported each year. Most authorities agree that breast cancer deaths could be reduced by 30 percent or more if women participated in comprehensive screening programs designed to detect breast cancer in its earliest, most treatable stages. Since 1989, New York has supported screening programs in communities around the state where the incidence and mortality from breast cancer has been high, and where there are large minority or low-income populations. Together, these programs have served more than 38,000 women since their inception.

Changes planned for the 1993-94 program period include the development of Breast Health Partnerships in all remaining counties and boroughs across the state. Through these partnerships, human service agencies, medical care providers and community groups agree to coordinate and link their resources to promote and provide screening services, with special emphasis on reaching women who have not been screened before, and who are unlikely to participate without addressing financial or insurance barriers.

Figure 1
Comparison of demographic characteristics of women surveyed through BRFSS and women reached in BCDEP program



[a] Among women ages 40 and older
[b] Majority of women served are age 35 and older

Results

The 1991 BRFSS showed no significant change from 1990 results in the proportion of women having mammograms and clinical breast exams; sixty-eight percent of women aged 40 and older received a mammogram and 55 percent of women aged 50 and older received one in the past two years. The national goal for ever having had a mammogram is 80 percent for women over 40, and 60 percent for women over 50 to have had a mammogram within the past two years. As evident in past years, screening prevalence declined with age, although these differences are not statistically significant. These findings may indicate that the women who can be persuaded through general public education, "first person" media accounts and direct program publicity to participate in screening have already been reached. Public health efforts must be directed to those women who are deterred from screening by other factors, such as mistrust of the medical care system, fear of cancer, cultural beliefs about appropriate health practices and behaviors or language barriers. As currently structured, the BRFSS questionnaire does not address barriers to participation.

Women seen in state-supported screening clinics are representative of this harder-to-reach population. Unfortunately, their number is not large enough to impact the statewide BRFSS. Figure 1 illustrates the differences between the surveyed population and the women screened through the Department of Health Breast Cancer Detection and Education Program (BCDEP). Women screened through this program are more likely to be members of minority groups, to have incomes under $24,000 and to have a high school education or less.

Discussion

New York State has embarked upon two projects to increase knowledge about special populations. The first, to be accomplished using BRFSS methodology, is a survey of black women across the state to determine their screening practices. This group is under-represented in the statewide survey, and it is important to know the extent to which the general responses are representative of black women. A second study, using focus groups and individual interviews, seeks to define the barriers to care experienced by five subgroups: migrant workers, older black women, Latinas of all ages, older rural women and American Indian women. This study is being pilot tested in the Genesee Valley area of New York State. Results of these two surveys will shape both public and professional education strategies and public health policy.

Expanding and improving the effectiveness of the statewide Breast Cancer Detection and Education Program is a public health priority in New York. Activities initiated this year will be reflected in the BRFSS in the future.

Behavioral Risk Factor Surveillance System

Pap Smear Screening

Pat P. Lillquist, MSW (Bureau of Cancer Epidemiology)
and Aura Weinstein, MPH (Bureau of Cancer Epidemiology)

Introduction

Between 1984 and 1988, an average of 1,054 cases of invasive cervical cancer per year were diagnosed in New York State, approximately evenly distributed between New York City and the rest of the state. Another 2,000 women a year were diagnosed with *in situ* cervical cancer for the same period. Despite the ability of regular, quality Pap screening to prevent deaths, 351 women died from this form of cancer in 1990. The Cancer Advisory Panel to the New York State Department of Health has issued cancer screening guidelines for physicians. For cervical cancer, these guidelines recommend an annual Pap smear for all women ages 20 to 70 and for sexually active women under the age of 20. The guidelines also advise physicians that women who have been exposed to diethylstilbestrol (DES), who are in lower socioeconomic groups and who live in rural areas are at increased risk.

The national Pap screening goal is 95 percent of women ages 18 and older to have received a Pap test, and 85 percent to have been screened within the past one to three years.[1]

Results

Because goals for the year 2000 apply only to women who have not had a hysterectomy, 15 percent of female respondents to the 1991 BRFSS survey who had a hysterectomy were excluded from analyses. Table 1 presents the proportion of women who reported ever having had a Pap test, and those who had a recent Pap test (within the past two years) by various sociodemographic characteristics. Although many categories of women were at or above the goal of 95 percent, younger women and women who had never married were less likely to report ever having a Pap test. These were the same sociodemographic groups that were also less likely to have been screened recently. In addition, although 84 percent of women over age 65 reported having had a Pap test at some time in the past, only 64 percent had the test within the past two years. The proportion reporting Pap screening did not differ by race. A lower proportion of New York City women reported ever having a Pap test.

Discussion/Recommendations

Although screening behavior for most segments of the population is in accordance with screening guidelines, additional public health efforts in the area of cervical cancer should be targeted toward younger women, women over age 65 and women with lower than a high school education. A number of barriers to cervical screening have been reported in the literature.[1] Fear and embarrassment were barriers identified for teenagers, while for older women, lack of physician referral is a primary barrier, along with beliefs and lack of knowledge. Programs serving these populations should be aware of these barriers and formulate methods for overcoming them.

References

1. United States Department of Health and Human Services. Healthy People 2000: National Health Promotion and Disease Prevention Objectives. *DHSS Pub. No.* (PHS) 91-50213.
2. *Breast and cervical screening: barriers and use among specific populations.* Literature review prepared for public health planners, AMC Cancer Research Center, March 1992.

Behavioral Risk Factor Surveillance System

1991 BRFSS

Weighted percent of female respondents' use of PAP tests among women who had not reported hysterectomy

Sociodemographic Characteristics	Ever received a PAP test		Received a PAP test within the past 1-2 years	
	Weighted Percent	Est. 95% C.I. (+/-)	Weighted Percent	Est. 95% C.I. (+/-)
Healthy people objective for the year 2000	95		85*	
Total	92	3	83	4
Age				
18-24	74	13	74	13
25-34	96	4	94	15
35-44	100	<1	92	6
45-54	97	5	85	11
55-64	92	9	73	16
65+	84	10	64	15
Race				
White	93	2	83	5
Black	90	4	86	10
Other	87	5	79	12
Education				
< High School	82	6	68	15
High School Graduate	91	3	82	7
Some College	89	3	83	9
College	97	1	89	6
Marital Status				
Married/Unmarried couple	97	1	88	5
Separated/Divorced/Widowed	94	2	79	8
Never Married	77	5	73	10
Income				
< $15,000	86	4	75	11
$15,000 - $24,900	88	4	78	11
$25,000 - $34,900	97	2	90	9
$35,000 +	92	3	84	8
Region				
New York City	88	2	82	5
Rest of State	94	3	83	6

*Objective set is for Pap test within the past one to three years.

Behavioral Risk Factor Surveillance System

Tobacco Use

Russell C. Sciandra, MA (Bureau of Adult and Gerontological Health)

Introduction

Tobacco use, particularly cigarette smoking, is the most important preventable cause of death and disease in New York State. Twice as many people are killed by tobacco as die from AIDS, motor vehicle accidents, breast cancer, suicide and homicide combined. The most recent estimates set total tobacco-attributable deaths in New York State at 33,404 annually. Gross health care costs, lost wages and lost productivity total $6 billion per year. Because it has such a large impact on public health, even small changes in the patterns of tobacco use are significant.

Smoking prevalence in the United States declined fairly steadily for 20 years following publication of the first Surgeon General's Report in 1964, falling at a rate of one-half percentage point per year. During the period 1987 to 1990, the rate of decline accelerated, averaging more than one percentage point per year. By 1990, the prevalence of cigarette use among adults fell from 40.4 percent in 1965 to 25.5 percent. However, the 1991 National Health Interview Survey showed smoking prevalence unchanged from 1990 at 25.7 percent.[1] In New York State, the prevalence of regular cigarette use declined from 31.4 percent in 1985 to 23.2 percent in 1987. Subsequent years showed very little change and in 1990, prevalence was 22.5 percent.

Results

Table 1 presents the percentages, for the total population and various demographic groups, of current regular cigarette smokers. In 1991, 23 percent of adults were current regular smokers, a small but not statistically significant increase over 1990. There were few important differences in smoking prevalence among demographic groups. The smoking rate was highest between 25 and 44 years of age and lowest after age 65. The rate for New York City was lower than that for the rest of the state, probably a function of the city's high nonwhite population. The best predictor of tobacco use is educational attainment. College graduates exhibited much lower smoking rates than those with fewer years of education. As the difference in tobacco use rates between the best and least educated has become greater, the burden of disease associated with smoking is increasingly falling upon the less advantaged sectors of society.

In 1991, the average number of cigarettes smoked per day by regular smokers was 16.7. In 1987, the average number of cigarettes smoked was 17.9. Thus, while the prevalence of smoking was essentially unchanged from 1987 reported consumption among regular smokers declined 6.8 percent. Rates of irregular smoking were unchanged. Between 1987 and 1991, an alternative measure of consumption – state tax paid cigarette sales – fell 20 percent, from

Table 1
1991 BRFSS
Adults reporting they are current regular cigarette smokers

Sociodemographic Characteristic	Weighted Percent	Est. 95% CI (+/-)
Total	23.0	2.8
Sex		
Male	24.9	4.5
Female	21.3	3.6
Age		
18-24	25.9	8.5
25-34	27.1	6.2
35-44	28.7	6.8
45-54	22.1	7.8
55-64	20.5	7.7
65+	12.7	5.3
Race		
White, NonHispanic	23.3	3.3
Non-White	22.0	5.4
Education		
<High School	21.8	7.2
High School Graduate	29.1	5.3
Some College	23.4	6.2
College Graduate	16.2	4.4
Marital Status		
Married	22.3	4.0
Sep/Div/Wid	23.0	5.6
Never Married	24.7	5.8
Income		
<$15,000	27.8	6.9
15,000-24,999	27.6	7.2
25,000-34,999	29.6	9.1
35,000	23.2	5.7
Region		
New York City	21.0	3.7
Rest of State	24.1	4.3

1.955 billion packs to 1.561 billion. During the same period, the cost of cigarettes in New York State increased 60 percent.[2]

Discussion/Recommendations

The plateau in smoking prevalence over a five-year period is cause for concern. Two factors may contribute to this leveling:

- The steady growth in market share of discount cigarettes has helped ameliorate the impact of price and excise tax increases. Smokers who would have quit to avoid paying higher prices may instead have switched to lower-priced brands.
- Tobacco industry national expenditures for advertising and promotion have increased 55 percent since 1987.[3] Advertising may entice children to begin smoking and reduce adult smokers' resolve to quit.

The decline in average daily consumption may reflect the impact of the New York State Clean Indoor Air Act, which has restricted smoking in many public places and in worksites since early 1990. Several researchers have found an association between employment in a setting where smoking is restricted or banned and reduced workday consumption of cigarettes.[4,5] Because the incidence of smoking-related disease increases with exposure, reducing total consumption may have public health benefit. However, the same reduction in consumption would have a greater effect on disease incidence if achieved through lower prevalence.

Reasons for the discrepancy between changes in self-reported consumption and that observed in actual sales is unclear and may be attributable to a combination of deficiencies in each measure. For example, the decline in tax paid sales may reflect, in part, increased tax avoidance. Examples of tax avoidance are cross-border shopping and untaxed purchases on Indian reservations. It is unlikely this behavior accounts for more than a fraction of the discrepancy. Prevalence of teenage smoking is another measure not provided by the BRFSS. Declines in smoking in certain groups not surveyed, such as teenagers, may account for part of the difference between the two measures. Issues such as this point up the need to institute a more extensive tobacco use surveillance system than is currently available through BRFSS. Such a system would include surveys of adolescents, including those not in school, and of adults. It should include samples sizes sufficient to allow monitoring of important population subgroups.

The national health objectives for the year 2000 establish the goal of an adult smoking prevalence of 15 percent. Attaining this goal will require intensified efforts to discourage the use of tobacco by helping smokers break their nicotine addiction, persuading children never to start smoking and enacting public policies that discourage smoking. Such policies include increased taxes on tobacco products, stronger restrictions on smoking in public places, reducing and restricting tobacco product advertising and enforcing laws prohibiting the sale of tobacco products to minors.

References

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Behavioral Risk Factor Surveillance System

NOTICE TO READERS

In Vol 1, No. 1 of the 1991 Behavioral Risk Factor Surveillance System Summary Report the following data should be substituted for **region** included in the sociodemographic tables

Risk Factor	Region	Weighted Percent	Est. 95% CI (+/-)
Hypertension			
Table 1. Adults reporting having a blood pressure reading in the past year	New York City	94.2	2.5
	Rest of State	93.7	2.1
Table 2. Adults reporting a health professional informed them they were hypertensive	New York City	21.0	4.3
	Rest of State	21.7	3.6
Physical Activity			
Table 1. Adults reporting sedentary lifestyle behavior	New York City	61.6	5.2
	Rest of State	56.6	4.3
Injury Control			
Working Smoke Detector	New York City	84.3*	3.9
	Rest of State	91.5	2.4
Test the temperature of the hot water	New York City	5.7	2.5
	Rest of State	7.0	2.2
Poison control center phone number	New York City	57.1*	10.7
	Rest of State	80.7	7.0
Ipecac syrup in house	New York City	19.7*	8.5
	Rest of State	40.4	8.7
Safety seat or seat belt for youngest child	New York City	78.1*	8.8
	Rest of State	89.3	5.4
Seat Belt Use:			
Respondents who always use seat belts	New York City	69.7	4.0
	Rest of State	58.3*	5.3

* Statistically significant difference